FINDING OF NO SIGNIFICANT IMPACT
AND
DECISION
FOR
ENVIRONMENTAL ASSESSMENT
MANAGEMENT OF WOLF-LIVESTOCK CONFLICTS AND CONTROL OF DEPREDATING WOLVES IN THE STATE OF MINNESOTA

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), Wildlife Services (WS) program responds to requests for assistance from individuals, organizations, and agencies experiencing damage caused by wildlife. WS is the Federal program authorized by law to reduce damage caused by wildlife (Act of 1931, as amended (46 Stat. 1486; 7 U.S.C. 426-426c) and the Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988, Public Law 100-102, Dec. 27, 1987. Stat. 1329-1331 (7 U.S.C. 426c). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife, and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an Integrated Wildlife Damage Management (IWDM) approach, commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is not based on punishing offending animals but as one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997, WS Directive 2.201). The imminent threat of damage or loss of resources is often deemed sufficient for wildlife damage management actions to be initiated (U.S. District Court of Utah 1993). Resource management agencies and individuals have requested WS to conduct wolf damage management to alleviate depredation on livestock, depredation on pets, and potential threats to human health and safety in Minnesota. All WS' wildlife damage management activities are in compliance with relevant laws, regulations, policies, orders and procedures, including the Endangered Species Act of 1973 and Clean Water Act.

Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management actions may be categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). To evaluate and determine if any potentially significant impacts to the human environment from WS' planned and proposed program would occur, an environmental assessment (EA) was prepared. The EA documents the need for wolf damage management in Minnesota and assesses potential impacts of various alternatives for responding to wolf damage problems. The EA analyzes the potential environmental and social effects for resolving wolf damage related to the protection of livestock, pets, and human health and safety on private and public lands in Minnesota. WS' proposed action is to implement an Integrated Wildlife Damage Management (IWDM) program on private and public lands in Minnesota. Comments from the public involvement process were reviewed for substantial issues and alternatives which were considered in developing this decision. Based on the analysis in the EA, I have determined that there will not be a significant impact, individually or cumulatively, on the quality of the human environment from implementing the proposed action, and that the action does not constitute a major federal action significantly affecting the quality of the human environment.

Public Involvement

Notices inviting public comment were published in two prominent newspapers in the state. The pre-decisional EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. A letter inviting comments and, subsequently, the pre-decisional EA were sent to potentially affected or interested American Indian Tribes to assure their opportunity to be involved in the EA process. Comments received were reviewed to identify any substantive new issues or alternatives not already identified for analysis. All letters and comments are maintained in the administrative file located at the Minnesota Wildlife Services Office, 34912 U.S. Hwy. 2, Grand Rapids, MN 55744.

Comment letters from three environmental groups were received in response to the pre-decisional EA itself. No comments were received in response to the newspaper notice. Although many of the concerns raised were already addressed in the EA, several of the comments indicated areas that warranted additional clarification or treatment. Similar comments from the three groups were:

1) The EA needs to have another alternative added to it. This alternative would be written as **Required (Mandatory) Use of Best Management Practices (BMP) and Non-lethal Methods of Control by Livestock Producers Prior to Initiation of Lethal Control.**

WS agrees that there needs to be continuing and enhanced efforts to inform livestock producers about best management practices (BMP) and non-lethal methods of wolf control that potentially could help prevent or alleviate wolf depredations on livestock. Certainly that is a desirable goal in WS' integrated wolf damage management program. However, WS disagrees with the premise that BMP and non-lethal methods for controlling wolf (not coyote) damage have been shown to be effective and reliable enough to be made a mandatory requirement for livestock producers as a pre-condition to lethal control. Voluntary use of BMP and non-lethal methods seems to be the more reasonable approach, as making them a mandatory requirement may result in increased frustration by livestock producers with wolf damage management policies, especially if these methods fail to reduce wolf depredations. If a producer suffers a verified loss, it may take some time to implement non-lethal methods, and the methods may not be timely enough to prevent additional losses from occurring. Frustrated livestock producers may then feel the need to address their own problems, resulting in increased illegal taking of wolves and lowered public tolerance for wolves in general. An increased controversy with wolf control policies would not enhance wolf recovery efforts.

Also, WS' current role in wolf damage management is neither to act as a regulatory or an enforcement agency. WS has no authority to enact or enforce the requirement that livestock producers must utilize BMP or non-lethal wolf control methods. If BMP and non-lethal methods were a pre-condition to lethal control, such a regulation would have to come from the U.S. Fish and Wildlife Service (USFWS), the regulatory agency for wolf management regulations in Minnesota. Since the State of Minnesota makes wolf compensation payments through the Minnesota Department of Agriculture (MDA), MDA would be considered the potential enforcement agency for approving or denying claims where BMP or non-lethal methods were not utilized or for enforcing the existing state law for proper disposal of dead livestock carcasses. WS is simply a cooperating agency that receives a permit from both the USFWS and the Minnesota

Department of Natural Resources to carry out those federal and state wolf management regulations that have already been authorized.

At the endpoint of wolf recovery in Minnesota (under a federally threatened status), it would also be very difficult to impose upon livestock producers BMP and non-lethal methods requirements that were not deemed necessary by USFWS or the State at the beginning of wolf recovery efforts in Minnesota, when there were few wolves and they had a federally endangered status.

The three organizations have also made two assumptions in this concern that need to be examined more closely:

- The first assumption is that when wolf depredations occur at a farm it is because the farm does not have good BMP or has made no attempt to utilize non-lethal methods. While there certainly are some farms that could potentially improve upon their livestock management practices, many farms do employ good animal husbandry, otherwise they wouldn't be able to stay in business. WS has found that wolf depredations occur even at good livestock operations. In fact, as discussed under Best Management Practices on page C-1, Appendix C, of the EA, Mech et al. 2000 was unable to identify any predisposing factors at farms that experienced wolf damage compared to those that did not, except that farms with chronic losses were larger, had more cattle, and had herds farther from human dwellings. The study also stated that the role of proper livestock carcass disposal as a possible factor predisposing farms to wolf depredations remains unclear. In spite of this finding, WS still believes that improper disposal of dead livestock carcasses is a contributing factor to the onset of wolf depredations at farms and strives to identify and correct this practice at those farms where it is found and where control actions are taken, in an effort to reduce the likelihood of future depredations.

- The second assumption is that non-lethal methods are or will be effective in preventing or alleviating wolf damage in all situations, geographic and habitat type locations, and with a degree of reliability year to year so that their utilization by livestock producers could eliminate or greatly reduce the need for lethal control of wolves at farms. Some farms in Minnesota, especially those that have experienced chronic wolf depredations, utilize or have tried various non-lethal methods including flagging, taste aversion, flashing lights, anti-predator fencing, and guarding animals. In a number of cases, the non-lethal methods that were utilized failed to prevent additional wolf depredations at the farm or did not prove to be reliable enough on a sustained (year to year) basis to greatly diminish the need for periodic lethal wolf control (see discussion of Non-Lethal Damage Management Methods on page C-1, Appendix C, of the EA). While there have been several studies of the effects of non-lethal methods in reducing coyote damage to livestock, there has not been extensive testing of non-lethal methods to prevent wolf damage in the United States. Wolves are a much larger predator than coyotes and live in large family units (packs). For example, livestock guard animals (guard dogs, llamas, donkeys, and mules) that may be effective against the smaller coyote have sometimes been killed by wolves. Field tests and studies by the USFWS and WS of the use of various non-lethal methods to control wolf damage in Minnesota, Wisconsin, and the western United States have produced mixed results. Non-lethal methods represent tools that a livestock producer can potentially use in a wolf damage management situation. However, non-lethal

methods may only be effective in certain situations, or they might only be effective some of the time. In other situations they might not be effective at all, or they might be cost prohibitive and economically not feasible. Therefore, while non-lethal methods may be incorporated into a livestock producers' wolf damage management approach, they haven't proven to be reliable enough to predict that their implementation will provide either a quick or long-term solution to a livestock depredation problem. Results of studies of non-lethal methods employed against wolves in Minnesota have been discussed here and in the EA. Results of USFWS non-lethal tests can be found on the USFWS Region 6 Gray Wolf Progress Report web site at http://www.r6.fws.gov/wolf. Positive results in one geographic area or habitat type do not necessarily mean that those methods will produce similar results in a different geographic area with different habitat and livestock management practices or that any positive effects from the non-lethal methods employed will be long-term (year to year) and not short-term. Some studies of non-lethal wolf control methods, such as the Radio Activated Guard (RAG box), have utilized radio-collared wolves or are based on having all members of a depredating wolf pack radio-collared. Such methods would be impractical to implement or monitor in large wolf populations and would involve the capture of large numbers of wolves, which would be extremely difficult.

In conclusion, WS does recognize the need to be as proactive as possible in providing information about BMP and non-lethal methods to Minnesota livestock producers and in conducting further testing of these potential non-lethal wolf control methods as funding is available. However, WS has neither the regulatory or enforcement authority to require livestock producers to implement non-lethal control prior to the initiation of lethal control as part of its proposed action, Alternative 3 - Integrated Wolf Damage Management.

2) The preferred alternative should be Alternative 5 - Non-lethal Wolf Damage Mangement because current WS wolf control methods (leg-hold traps, foot-snares, neck snares, and shooting) are ineffective and inhumane.

One of the major disadvantages of Alternative 5 that was identified in the EA, was that it does not allow for the lethal removal of depredating wolves at affected farms in the event that non-lethal methods fail to alleviate wolf damage. Under the proposed action, Alternative 3, WS would be able to selectively remove depredating wolves if BMP and non-lethal methods fail to prevent wolf-livestock conflicts.

As to the assertion that WS' use of leg-hold traps, foot-snares, neck snares, and shooting is ineffective, WS believes that these control methods have been effective in resolving wolf-livestock conflicts in the short-term by selectively removing problem wolves at depredation sites immediately after verified depredations have occurred. Because preventive wolf depredation control is not authorized, WS' selective lethal control (following verified losses) has affected only local wolf packs at depredation sites and has had little overall effect on statewide wolf numbers or long-term depredations. Minnesota's large, protected wolf population has easily recolonized depredation sites or expanded livestock depredations to new areas of the state.

While it may be difficult to measure the long-term effects of WS' lethal control actions on wolf depredations at farms, we do know that the timely capture of depredating wolves can stop or reduce damage at affected farms in the year that it occurs. Perhaps the greatest benefit of selective lethal control is that it helps to reduce the animosity that livestock producers have for wolves, reduces illegal killing of wolves out of frustration with wolf management policies, and lessens the overall controversy surrounding wolves. In this manner, lethal control has a mediating effect which greatly helps to facilitate wolf recovery and to elevate public tolerance for wolves.

Wolves are very intelligent animals and can not be successfully captured in live-traps such as those used for other animals. Leg-hold traps, foot-snares, and neck snares are the only practical and effective methods for capturing depredating wolves approved for use by WS in Minnesota. The humaneness of WS' utilization of these methods has been discussed in 2.2.4 of Chapter 2 of the EA. The Minnesota WS program has been very proactive in assessing potential capture-related injuries to wolves and in developing appropriate trap designs and methods for capturing depredating wolves as humanely as possible, including testing and development of the trap tranquilizer device (TTD) in conjunction with the National Wildlife Research Center. WS' protocol for use of lethal control methods for removal of depredating wolves, including considerations for humaneness and selectivity, are discussed in Appendix C of the EA under Lethal Damage Management Methods.

Some of the same methods used by WS for lethal control (leg-hold traps) are also used by the USFWS or other agencies to capture wolves for wolf research studies or population monitoring which are considered positive for wolf management.

3) The EA fails to list all the potential non-lethal methods available for reducing damage by wolves or portrays many of the methods as ineffective. Non-lethal methods can effectively resolve wolf depredations and are more a long-term solution.

Non-lethal wolf damage management methods are sufficiently described in Appendix C of the EA including references to several research studies that describe these methods and report on the effectiveness of their use. A further discussion of the potential effectiveness of non-lethal methods has also been included under Concern #1.

Many tests of non-lethal methods have been conducted with coyotes rather than wolves. The Minnesota WS program has conducted some of the few studies of the effectiveness of non-lethal methods in resolving wolf-livestock conflicts on Minnesota farms, in the type of wolf habitat found in Minnesota, and in areas with very high densities of wolves. WS has had 26 years of daily wolf damage management field work to look at the effectiveness of these methods against wolves, and has found that, while certain individual farms may have some success in employing non-lethal methods to reduce wolf damage, other farms that employ the same methods in a similar manner have not had success. Sometimes, non-lethal methods may be a short-term deterrent, but later lethal control actions become necessary. Non-lethal methods may be useful tools in a wolf damage management strategy. However, they may be effective only in some situations and not others. Non-lethal methods have not proven to be reliable enough to be a long-term solution to

wolf-livestock conflicts, or to preclude the need for periodic selective lethal control of depredating wolves by WS.

4) WS is not authorized to conduct lethal control of wolves in situations involving the potential threat by wolves to human health and safety.

The EA recognizes that while wolves have not killed or injured a person in the lower 48 United States, there have been documented instances of wolves attacking people in Alaska, Canada, and India in recent years. Thus, it is reasonable to say that wolves are a potential threat to human safety. The human safety factor in Minnesota usually comes into play in situations where wolves attack, and kill or injure, domestic dogs in people's yards. Sometimes these wolf attacks occur in the presence of people, or people have had to intervene and chase the wolves off. The EA discusses this issue in 1.3.3 of Chapter 1. At the present time, WS has no legal authority to remove wolves that pose a potential threat to human safety and have never done so. However, WS personnel can legally remove wolves that have come into people's yards and attacked their pets. In doing so, WS also addresses the human safety concerns surrounding these depredation incidents.

The USFWS currently has a proposal in the Federal Register (USFWS January 11, 2002, 87 FR 1494) to allow WS to take "bold" wolves (wolves that have become habituated to humans and are difficult to scare away) in the rare instance where the wolf or wolves are determined to constitute a demonstrable but non immediate threat to human safety. If no action is taken in such a situation, the wolf usually ends up being shot illegally. It would be better for WS to remove the problem "bold" wolf, and by doing so, reduce public animosity towards wolves or frustration with wolf management policies that could lead to additional illegal killing of wolves.

At the present time, this USFWS proposal has not been adopted under the proposed action. However, if such actions are permitted in the future by the USFWS, WS may consider taking wolves for this type of request. In this case, WS would review this EA pursuant to NEPA and would provide additional information and NEPA analysis as appropriate.

5) WS removal of 150-300 wolves annually is unacceptable given both the biological and cultural carrying capacity of Minnesota's wolf population, especially when the annual illegal take of wolves is factored in. It appears that WS is promoting an escalation of lethal control.

Under 4.2.2 of Chapter 4 of the EA, WS states that it anticipates that 150-300 wolves would be killed annually by WS during depredation control. This statement was interpreted by the commenting groups to represent an escalation by WS over its current annual take level. That was not the intent of the statement. The statement has been modified to read that WS anticipates (with continued growth in Minnesota's wolf population and the continued upward long-term trend in wolf-livestock conflicts) that 150-300 wolves could potentially be killed annually by WS during depredation control. Certainly for WS to take 300 wolves annually, depredations would need to increase substantially over the current level and wolf population numbers would also need to be higher than at the present.

If anything, the *Indices To Wolf-Livestock Depredation* graph on page D-5 of Appendix D and the graph of *Wolves Captured And/Or Removed* on page D-6 of Appendix D, show that WS' annual take of depredating wolves responds to increases or decreases in the number of farms with verified losses each year. For example, when wolf depredations peaked in 1997 and 1998 at 93 and 99 farms respectively, WS removed its greatest number of wolves with 216 taken in 1997 and 161 in 1998. When fewer farms were subsequently affected in 1999 and 2000, a lower number of wolves were taken. Since WS can only conduct control actions at farms with verified wolf depredations and cannot conduct preventive wolf control, its annual take of depredating wolves is tied very closely to the actual number of farms that suffer damage. If one looks at the total number of wolves taken by WS in a given year, divided by the number of affected farms for that year, WS' control actions have consistently averaged about 2 wolves per affected farm. The only factors likely to escalate WS' annual take of depredating wolves is a continued increase in the number of farms with verified wolf depredations (as Minnesota's wolf population continues to grow and expand) or the level of wolf-livestock conflicts increases due to other natural causes, such as a decline in the wolf's natural prey (deer). Otherwise, WS' annual take of depredating wolves basically responds to the level of conflicts in a given year.

The effect of WS' take on the biological carrying capacity of Minnesota's wolves is discussed in 2.2.1 of Chapter 2 of the EA. Even when illegal take of wolves is considered along with WS' annual take of wolves for depredation control, Minnesota's wolf population has still continued to grow at about 5 % per year (Berg and Benson 1999).

6) WS data does not show that the expansion by wolves into more agricultural areas in Minnesota has led to an increase in depredation problems and an expansion of WS wolf control activities.

The *Indices To Wolf-Livestock Depredation* graph on page D-5 of Appendix D shows that the long-term trend in wolf-livestock conflicts in Minnesota has been upward over the course of wolf recovery. There have been peaks or valleys in certain years due to known or unknown factors that may have affected wolf-livestock conflicts for that particular year. For example, we know that wolf-livestock conflicts accelerated and peaked in 1997 and 1998 due to a substantial decrease in Minnesota's deer population as a result of heavy mortality during the severe winters of 1995-96 and 1996-97. With a reduced deer population and a large wolf population, wolf depredations on livestock increased sharply in 1997 and 1998. As Minnesota's deer population recovered in the following years, 1998-2000, wolf depredations declined back towards the long-term trend line.

As Minnesota's wolf population has grown, wolves have expanded their range significantly southward and westward in the state. A map of this range expansion can be found in Berg and Benson 1999, Mech 2001. This expansion has put wolves into more agricultural areas. In recent years, WS has had to conduct control activities at affected farms over a much larger area of the state than in previous years.

7) The purpose of WS does not include "game" management. WS should not conduct wolf control activities to enhance or recover ungulate populations.

WS is not authorized under existing USFWS regulations to conduct wolf control in Minnesota to enhance ungulate populations and has never done so, or is ever likely to do so. Section 1.3.2 of Chapter 1 of the EA simply discusses different aspects of potential damage from wolves, including the impact of wolves on wolf prey species that are also utilized by humans. Competition between wolves and humans for an ungulate species may not be the only argument put forward for wolf control. Outside of the hunting issue, disease, winter weather, or habitat deterioration may also reduce ungulate populations. By temporarily reducing predation pressure on a suppressed ungulate population, through wolf control, the target ungulate population may be able to recover much quicker than if left to natural processes. The pros and cons of wolf control to enhance ungulate populations can be found in the literature citations for 1.3.2 of Chapter 1.

8) The EA lacks sufficient information on the economic income generated by wolf eco-tourism.

The EA discusses in 1.3.1 of Chapter 1 the benefits of wolf activities including aesthetic viewing and associated economic (tourism) benefits. WS does not have a good source of information to determine a dollar value for the amount of income generated by wolf eco-tourism in Minnesota. Certainly, the International Wolf Center located in Ely, Minnesota, and its associated wolf field trips provide significant economic benefits and income to that area.

If the point of concern is that the economic benefit of wolves in Minnesota outweighs the level of economic damage from wolves ($ value listed in 1.3.2), the comparison is not valid because economic damage from wolves would also have to include the costs of developing wolf management programs, conducting wolf depredation control, and potential litigation. Also, wolf damage claims often include missing livestock that can not be documented for compensation payment.

9) WS should transfer funds from lethal control to also cover some of the costs for using non-lethal methods.

The Minnesota WS program does allocate part of its funding each year for non-lethal methods such as providing information about non-lethal methods to producers and supply sources, purchasing and installing flashing highway lights or Electronic Guard devices, and working with farmers on best management practices (especially the proper disposal of dead livestock carcasses). WS distributes to livestock producers a brochure developed by the Minnesota Department of Agriculture entitled "Wolves in Farm Country" that contains best management practices recommendations and how to verify and report wolf depredations.

With limited funding to conduct wolf damage management in Minnesota, WS uses most of its budget to resolve (as expeditiously as possible) depredations at farms where verified wolf damage has occurred. Because it often requires a period of time to implement non-lethal methods, lethal control affords the quickest solution or attempted solution to an ongoing depredation problem until non-lethal methods can be attempted or used to decrease the likelihood of future depredations.

10) The notion that increasing wolf numbers will result in a proportionate increase in wolf depredations is invalid.

The response to Concern #6 also addresses this issue. An examination of the *Indices To Wolf-Livestock Depredation* graph on page D-5 of Appendix D of the EA shows that the long-term trend in wolf-livestock conflicts in Minnesota (1975-2001) has been a slow, but steady increase over the course of wolf recovery in Minnesota. During this 26 year period, Minnesota's wolf population grew from 500-750 wolves in 1975 to an estimated 2,600 in 2000.

11) WS lethal activities may cause pack instability which may contribute to an increase in depredations rather than resolving the problem.

Lethal removal of wolves from a wolf pack depredating at a farm may affect the pack's dynamics or social structure in the short-term but doesn't appear to affect the pack's ability to recover by the following year. WS has observed that packs that are reduced in size by control actions still persist in maintaining their territories. Even when one or both adult breeding wolves in a pack are removed, other wolves from within the pack move up to replace them. There is a strong compensatory effect that allows the pack to continue to be viable and reproductively capable in the year following control.

Since both adult and yearling members of a pack are capable hunters, the removal of some pack members doesn't mean that there still won't be other surviving pack members capable of hunting for the pack. While the loss of one or both adult breeding wolves in the pack may remove the most experienced hunters, others can quickly take their place. It does not necessarily follow that the remaining wolves will be too inexperienced to capture live prey and will resort to killing easier livestock.

The level of food demand by the pack may also play a role in the initiation of livestock depredations. Large wolf packs have several additional animals searching for food and many members to feed which could result in livestock depredations. Also, each year's litter of pups place a strong food demand on the pack and may lead to livestock depredations if wolves establish den or rendezvous sites on or next to farms. Sometimes reducing the size of the pack or the removal of pups (after August 1) decreases this food demand and reduces the likelihood of additional livestock depredations.

12) Lethal control activities should only target the depredating wolf, not all wolves in a general area.

Most instances of wolf depredation at Minnesota farms involve a single pair or pack of wolves whose territory happens to include that farm. Since wolf packs are highly territorial, there is a low probability that non-target wolves from a neighboring wolf pack would be traveling in the territory of the depredating pack. Because wolves usually hunt as a pack, one or more wolves may be involved in the actual chasing and killing of livestock, and all members of the pack will come in and feed on any livestock that are killed. Thus, it is extremely difficult to determine the actual depredating wolf or wolves. By restricting trapping to within one-half mile of the boundaries of

the affected farm, WS personnel are capturing wolves inside the farm pasture or immediately adjacent to the pasture. Also, by initiating trapping immediately after a loss, the wolves that are captured have a high probability of being members of the depredating pack or pair living in the immediate vicinity of the farm. The capture and removal of wolves from a depredating pack usually doesn't cause the surviving pack members to abandon their hunting activities around a farm or to leave their pack territory in search of a safer area. This type of behavior then places more of the wolves from the depredating pack in danger of being captured.

Major Issues

Issues related to the proposed action were identified through the Minnesota WS program's experience with wolf damage management and through input from cooperating federal and state agencies. Based on considerable experience by cooperating agencies and APHIS-WS in addressing concerns expressed by the public over wolf damage management programs, the following issues were identified for consideration in detail in the EA:

- Effects on wolf populations
- Effects on non-target species populations, including T&E species
- Effects on public and pet health and safety
- Humaneness of methods to be used
- Impacts to stakeholders, including aesthetics of wildlife

In addition to the identified major issues considered in detail, four other issues were considered but not in detail.

Objectives

- Attempt to balance the needs of the wolf as a dynamic part of the ecosystem and a federally threatened species, with the need to minimize damage to human interests.
- Respond to all wolf damage problems within 24-48 hours.
- Keep the take of non-target species as low as possible during wolf damage management operations.

Alternatives Analyzed in Detail

Five potential alternatives were developed to address the issues identified above. Three additional alternatives were considered but not analyzed in detail. A detailed discussion of the anticipated effects of the alternatives on each issue considered in detail is described in Chapter 4 of the EA. The following summary provides a brief description of each alternative and its anticipated impacts.

- **Alternative 1 - No WS Wolf Damage Management in Minnesota.** This alternative would result in no assistance from WS in reducing wolf damage in Minnesota. WS would not provide technical assistance or operational damage management services. All requests for wolf damage management would be referred to the USFWS or MDNR as only authorized federal or state personnel could conduct wolf control activities. Assistance may or may not be available from either of these agencies who currently do not participate in wolf damage management.

- **Alternative 2 - Only Lethal Wolf Damage Management.** Under this alternative, only lethal operational wolf damage management would be provided by WS. Requests for information regarding non-lethal management approaches would be referred to USFWS, MDNR, other state agencies, or private businesses or organizations. Individuals or agencies might choose WS for lethal damage management services, implement non-lethal methods or other methods not recommended by WS, or take no action.

- **Alternative 3 - Integrated Wolf Damage Management for all Private and Public Land (No Action and Proposed Action).** Wildlife Services proposes to administer and continue the current wolf damage management program in the State of Minnesota. An IWDM approach would be implemented to reduce damage associated with wolf activities to property, agricultural, and public health and safety on all lands in Minnesota where a need exists and a request is received. Damage management would be conducted on property in Minnesota when the resource owners (property owners) or managers request assistance to alleviate wolf damage. An IWDM strategy would be recommended and used, encompassing the use of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, wolves, other species, and the environment. Under this action, WS would provide technical assistance and operational damage management, including non-lethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992). When appropriate, best management practices (animal husbandry), frightening devices, and livestock guarding animals could be recommended and utilized to reduce wolf damage. In other situations, wolves would be removed as humanely as possible using leg-hold traps, foot snares, neck snares, and shooting. In determining the damage management strategy, preference would be given to non-lethal methods when they are deemed practical and effective. Lethal methods would be used to reduce damage after practical and appropriate non-lethal methods have been considered and determined to be ineffective or inappropriate in reducing damage to acceptable levels. However, non-lethal methods may not always be applied as a first response to each damage problem encountered by WS. The most appropriate initial response to a wolf damage problem could be a combination of non-lethal and lethal methods, or there could be instances where application of lethal methods alone would be the most appropriate strategy. Wolf damage management would be conducted in Minnesota when the resource owners (property owners) request assistance to alleviate wolf damage, wolf damage is verified by WS, and an *Agreement for Control* or other comparable document has been completed. All wolf damage management would be consistent with other uses of the area and would comply with appropriate federal, state, and local laws, and court mandated restrictions.

- **Alternative 4 - Technical Assistance Only (Preventive Measures or Best Management Practices).** Wolves in Minnesota are currently a federally protected "threatened" species and can only be taken by authorized federal or state personnel, not the general public, who would face stiff penalties for illegally killing wolves. Therefore, under alternative 4, the technical assistance recommendations that WS could provide to control wolf damage would be limited to preventive measures or best management practices as WS could not, under current federal regulations, instruct property owners in how to lethally control wolves. Best management practices (BMP) are defined as improvements in animal husbandry that could potentially

prevent or mitigate predation on domestic animals. Individuals might choose to implement WS BMP recommendations, request lethal or non-lethal control actions from authorized agencies other than WS, or take no action. This alternative would place the immediate burden of preventive wolf damage management on property owners. Individuals seeking to prevent wolf damage would, independently or with WS recommendations, carry out and fund BMP.

- **Alternative 5 - Non-lethal Wolf Damage Management.** Under this alternative, only non-lethal management approaches would be used or recommended by WS. Both non-lethal operational damage management services and technical assistance would be provided by WS. Requests for information regarding lethal management approaches would be referred to USFWS or MDNR. Individuals might choose to implement WS non-lethal recommendations, request lethal control actions from authorized agencies other than WS, contract for WS non-lethal damage management services, or take no action.

Alternatives Considered but Not Analyzed in Detail

Three alternatives were considered but not in detail and are described as follows with rationale:

Eradication and Suppression
An eradication and suppression alternative would direct all Minnesota WS wolf damage management efforts toward planned, total elimination or suppression (preventive control) of this species.

Eradication or suppression (preventive control) of wolves in Minnesota is not allowed under their current status as a federally threatened species. Thus, this alternative was not considered in detail. Suppression would direct Minnesota WS program efforts toward managed reduction of certain problem wildlife populations or groups. To consider large-scale population suppression as a goal of the Minnesota WS program is not realistic, practical or allowable under present WS policy.

Population stabilization through birth control.
Contraceptive measures for mammals can be grouped into four categories: surgical sterilization, oral contraception, hormone implantation, and immuno-contraception (the use of contraceptive vaccines). These techniques would require that wolves receive either single, multiple, or possibly daily treatment to successfully prevent conception. The use of this method would be subject to approval by federal and state agencies.

Surgical sterilization has been suggested as a means to managing wolf populations. This alternative was not considered in detail because: (1) it would take a number of years of implementation before the wolf population would decline, and, therefore, damage would continue at the present unacceptable levels for a number of years; (2) surgical sterilization would have to be conducted by licensed veterinarians, would therefore be extremely expensive; (3) it is difficult to effectively capture the number of wolves that would need to be sterilized in order to effect an eventual decline in the population; (4) no chemical or

biological agents for contracepting wolves have been approved for use by state and federal regulatory authorities.

As with chemical repellents and toxicants, a reproduction inhibitor could potentially affect non-target wildlife and the environment. Any material would have to be intensively tested and approved for use. Additional research is needed before the environmental affects, and affects to populations and individual animals, from reproductive inhibitors are known. Should a technique or chemical become registered for use, it could be incorporated into the IWDM Program in Minnesota.

Bounties

Minnesota administered various bounty and control programs for wolves from 1849 to 1974 (Fritts 1982). However, in August 1974, the Endangered Species Act of 1973 was invoked to provide legal protection to wolves. Control of depredating wolves was restricted to authorized state or federal personnel under stringent federal wolf management guidelines. Therefore, removal of depredating wolves in Minnesota based on bounty payments is currently not authorized.

Finding of No Significant Impact

The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of implementing the proposed action. I agree with this conclusion and therefore find that an EIS need not be prepared. This determination is based on the following factors:

1. Wolf damage management activities, as conducted by WS in Minnesota are not regional or national in scope.

2. The proposed action would pose minimal risk to public health and safety.

3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected.

4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to the lethal components of an integrated wolf damage management program, overall, the proposed action is not highly controversial in terms of size, nature, or effect.

5. Based on the analysis documented in the EA, the effects of the proposed involvement by APHIS-WS in a wolf damage management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.

6. The proposed action would not establish a precedent for any future action with significant effects.

7. No significant cumulative effects on the quality of the human environment were identified through this assessment.

8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.

9. An evaluation of the proposed action and its effects on T&E species determined that no significant adverse effects would occur to such species, nor would their be any impact on critical habitat for any listed species.

10. The proposed action would be in compliance with all Federal, State, and local laws imposed for the protection of the environment.

Decision

I have carefully reviewed the EA and the input resulting from the public involvement process. I believe the issues and objectives identified in the EA would be best addressed through implementation of Alternative 3 (No action/ Proposed Action). Alternative 3 is therefore selected because it offers the greatest flexibility in achieving effectiveness while minimizing cumulative adverse impacts on the quality of the human environment with respect to the issues raised for consideration in this process. The APHIS-WS program will implement the proposed action as described in the EA and in compliance with all applicable mitigation measures listed as components of standard operating procedures in Chapter 3 of the EA.

For additional information regarding this decision and copies of the EA, please contact William Paul, Assistant State Director, USDA-APHIS-Wildlife Services, 34912 U.S. Hwy. 2, Grand Rapids, MN 55744; phone (218) 327-3350.

Charles S. Brown, Acting Regional Director
APHIS-WS Eastern Region

4/29/02
Date

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